

# Martin Gutzwiller

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**Martin Charles Gutzwiller** (12 October 1925 (Basel CH) – 3 March 2014 (NYC USA)) was a Swiss-American physicist who made pioneering contributions to field theory, condensed matter and quantum chaos. During a long period he worked at IBM Research at NY, and during last years he was also an adjunct professor of physics at Yale University. His selected publications in quantum chaos are available at (Gutzwiller, 1971;Gutzwiller, 1980;Gutzwiller, 1990). A detailed description of life and outstanding scientific results of Martin Gutzwiller are described in (Berry and Baeriswyl, 2016;Wikipedia, 2020).

**Chaotic stories.** At a Quantum chaos workshop after a talk of Martin one of participants compared his images of chaotic periodic orbits and cycle expansion with futuristic ones (Futurism Wikipedia, 2020). Martin liked the comparison. A reader can trace himself a similarity between an orbit in a chaotic billiard (Fig.2), Dynamism of a cyclist by Umberto Boccioni (Fig.3) and Cyclist of Natalia Goncharova (Fig.4).

**This short article is written by Dima Shepelyansky, Scholarpedia Editor of Category:Quantum\_Chaos. It highlights contributions of Martin Gutzwiller to Scholarpedia and directs an interested reader to more detailed articles about this outstanding physicist.**



Figure 1: Martin Gutzwiller

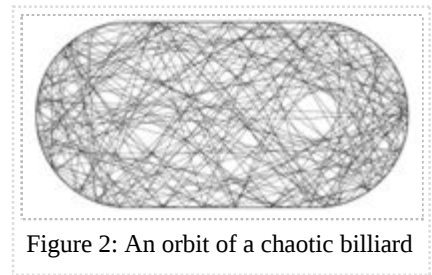


Figure 2: An orbit of a chaotic billiard

## References

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- Gutzwiller M.C. (1980). *Classical quantization of a Hamiltonian with ergodic behavior*, *Phys. Rev. Lett.* 45(3): 150.
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- Berry M.V., and Baeriswyl D. (2016). *Martin Charles Gutzwiller*, *Biographical Memories, National Academy of Sciences* (<http://www.nasonline.org/publications/biographical-memoirs/memoir-pdfs/gutzwiller-martin.pdf>) .

- Wikipedia article (2020). *Martin Gutzwiller* [1] ([https://en.wikipedia.org/wiki/Martin\\_Gutzwiller](https://en.wikipedia.org/wiki/Martin_Gutzwiller)) .
- Wikipedia article (2020). *Futurism* [2] (<https://en.wikipedia.org/wiki/Futurism>) .

## Articles of or about Martin Gutzwiller at Scholarpedia

Quantum chaos, Gutzwiller wave function, Gutzwiller wave function/historical note, see also featured author at Scholarpedia [3] (<http://www.scholarpedia.org/article/User:Gutzwiller>)

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Figure 3: Dynamism of a cyclist by Umberto Boccioni (1913), (from Wikipedia)



Figure 4: Cyclist by Natalia Goncharova (1913), (from Wikipedia)

Category: Quantum chaos

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